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Patent Claims: (AMENDED 27 April 2004)

1. A process for purification of waste oil or re-refined oil from mineral or synthetic oil comprising the steps of:

- prefiltrating said oil,
- lowering the temperature of the prefiltrated oil and subsequently passing the prefiltrated oil through a filtering unit in which the filter medium comprises organic fibres and carbon particles, said organic fibres and carbon particles being adhered to each other by a binder.

2. A process according to claim 1, wherein the oil is prefiltrated by passing the oil through one or more prefiltration units.

3. A process according to claim 1, wherein the oil is prefiltrated by passing the oil through three prefiltration units.

4. A process according to claim 3, wherein the first prefiltration unit is trapping particles bigger than approximately 12 µm, the second prefiltration unit is trapping particles bigger than approximately 6 µm, and the third prefiltration unit is trapping particles bigger than approximately 1 µm.

5. A process according to any one of the claims 1-4, wherein the prefiltration units remove particles with decreasing sizes in the direction of the flow.

6. A process according to any one of the claims 1-5, wherein the prefiltration is performed by using a filtering medium made of glass fibres.

7. A process according to any one of the claims 1-6, wherein the prefiltrated oil is passed through one or more filtering units.

8. A process according to any one of the claims 1-7, wherein the filtering medium in the filtering unit contains 5-95% carbon based on the weight of carbon particles and organic fibres.

9. A process according to any one of the claims 1-8, wherein the fibres in the filtering unit are natural fibres preferably cellulosic fibres.

10. A process according to any one of the claims 1-9, wherein the binder is a positively charged resin.

11. A process according to any one of the claims 1-10, wherein the organic fibres, the carbon particles and the binder are in the form of a filtering plate.

12. A process according to claim 11, wherein the filtering plate is supported downstream by a net, preferably a net of plastic or steel.

13. A process according to any one of the claims 1-12, wherein the oil is passed through one or more vacuum units after passing through the prefiltration units and before passing through the filtering unit.

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14. A process according to any one of the claims 1-13, wherein the oil is heated to a temperature of 50-90°C before passing the prefiltration units.

15. A process according to any one of the claims 1-14, wherein the oil is cooled immediately before passing through the filtering unit.

16. A process according to claim 15, wherein the oil is cooled to a temperature of 10-30 °C.

17. A process according to any one of the claims 1-16, wherein the oil is forced through the treatment steps by the use of a pump.

18. An apparatus for the purification of waste oil or re-refined oil from mineral or synthetic oil by a process according to any one of claims 1 - 17 comprising

- means for prefiltrating said oil,
- means for cooling the prefiltrated oil and
- a filtering unit in which the filtering medium comprises organic fibres and carbon particles, said organic fibres and carbon particles being adhered to each other by a binder

19. An apparatus according to claim 18, wherein the filtering medium in the filtering unit contains 5-95% carbon based on the weight of carbon particles and fibres.

20. An apparatus according to claim 18 or 19, wherein the fibres in the filtering unit are natural fibres, preferably cellulosic fibres.

21. An apparatus according to any one of the claims 18-20, wherein the binder is a positively charged resin.

22. An apparatus according to any one of the claims 18-22, wherein the organic fibres, the carbon particles and the binder are in the form of a filtering plate.

23. An apparatus according to claim 22, wherein the filtering plate is supported downstream by a net preferably made of plastic or steel.

24. An apparatus according to any one of the claims 18-23, wherein said means for prefiltrating comprises one or more prefiltration units.

25. An apparatus according to claim 24, wherein said prefiltration units remove particles with decreasing size in the direction of the flow.

26. An apparatus according to any one of the claims 18-25, wherein the prefiltration means comprise three prefiltration units.

27. An apparatus according to claim 26, wherein the first unit is trapping particles bigger than approximately 12 µm, the second prefiltration unit is trapping particles bigger than approximately 6 µm, and the third prefiltration unit is trapping particles bigger than approximately 1 µm.

28. An apparatus according to any one of the claims 18-27, wherein the prefiltrating means comprise filters with a filter medium made of glass fibres.

29. An apparatus according to any one of the claims 18-28, wherein said apparatus comprises one or more vacuum units, said vacuum units being placed in the direction of the flow immediately after the prefiltrating means.

30. An apparatus according to any one of the claims 18-29, wherein a heater is placed in the direction of the flow immediately before the prefiltrating means.

31. An apparatus according to any one of the claims 18-30, wherein a cooler is placed in the direction of the flow immediately before the filtering unit.

32. An apparatus according to any one of the claims 18-31 comprising an additional filter, said filter being placed in the direction of flow after the filtering unit.

33. An apparatus according to any one of the claims 18-32 comprising a pump preferably for forcing the oil through the treatment steps.

34. Use of an apparatus according to any one of the claims 18-33 for the purification of waste oil or re-refined oil from mineral or synthetic oil.